

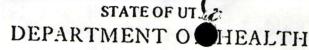
James O. Mason, M.D., Dr.P.H. Executive Director 801-533-6111

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DIVISION OF ENVIRONMENTAL HEALTH
150 West North Temple, P.O. Box 2500, Salt Lake City, Utah 84110

in/021/004

JR

MWL

Alvin E. Rickers, Director Room 428 801,533-6121

533-6146

August 20, 1980

Mark Welch, Chief Engineer Ranchers Exploration & Development Corp. Box 6217 1776 Montano Road N.W.

(Jalines)

RE: Ammended Wastewater Construction Permit Escalante Silver Mine Enterprise, Utah

Dear Mark:

Albuquerque, NM 87197

We have reviewed the plans and design criteria for the tailings facilities and ponds contained in the 3 volume Notice of Intention to Commence Mining Operations at the Escalante Silver Mine near Enterprise, Utah.

As a result of our review we find the plans to be in conformance with the Utah Wastewater Disposal Regulations and approve them for inclusion as part of our construction permit of March 7, 1980 which was issued at that time for minewater discharge from the Escalante Silver Mine. This part of the construction permit is issued subject to the following considerations:

1. The tailings pond will be located about 1½ mile west of the mill in a natural basin, three miles from the nearest irrigation well and four miles from the nearest habitation. The dam for the pond will be constructed in 3 stages and as shown on drawing E1045-47-4202-A:

Stage 1:

Pond Capacity	$20 \times 10^6 \text{ ft}^3$
Surface Area	33 ac
Embankment Height	37 ft.

Stage 2:

Pond Capacity		$40 \times 10^6 \text{ ft}^3$
Surface Area		48 ac
Embankment Height	1	47 ft

Stage 3:

Pond Capacity	60	x 10 ⁶ ft	3
Surface		ac	•
Embankment Height	55	ft.	

- 2. Tail s will be moved from the mill the pond by a 4 inch diameter tail line and water from the pond will be returned to the mill via a screended reclaim riser and 4 inch reclaim line. The mill, ancillary facilities and tailings pond are designed for zero discharge of wastewater utilizing liners, concrete containment facilities and collection basins. Tests indicate no tailings or tailings solution will find their way into the groundwater.
- 3. The perimeter of the tailings pond will be fenced with 8' high hogwire fencing, and monitoring wells will be installed to the groundwater table, three wells downstream and one upstream (300 to 350 feet deep). This permit is issued subject to the Utah Bureau of Water Pollution Control receiving test results taken at these monitoring wells on parameters shown on page 19 of Volume 2.
- 4. The pond will be lined from existing earth materials at the site as described in page 14 of Volume 2 of the Notice of Intentions to minimize leakage and provide a safeguard against potential groundwater degredation.

Sincerely,

UTAH WATER POLLUTION COMMITTEE

calvin K. Sudweeks Executive Secretary

EHP: laf

cc: Southwestern District Health Department

SVL Job Number: 90-0178

PAGE:

REPORT OF ANALYTICAL RESULTS

Client : Hecla Mining Co. Date of Sample Receipt : 8/23/90

L Date of Report : 8/28/90

Determination : Cyanide WAD

Method : Colorimetric

SVL Sample ID	Client Sample ID	Matrix	Result	Units
01484	T-1 8-20-90	SOIL	11.4	mg/kg
01485 01486	T-2 8-20-90 T-3 8-20-90	SOIL SOIL	31.4 26.4	mg/kg mg/kg
01487 01488	T-4 8-20-90 T-5 8-20-90	SOIL SOIL	36.6 7.6	mg/kg mg/kg
01489	T-6 8-16-90	SOIL	33.0	mg/kg

REPORT OF ANALYTICAL RESULTS

Client : Hecla Mining Co. Date of Sample Receipt : 8/23/90

Date of Report : 8/28/90

Determination : Cyanide Total Method : Colorimetric

L Sample ID	Client Sample ID	Matrix	Result	Units
01484	T-1 8-20-90	SOIL	14.8	mg/kg
01485	T-2 8-20-90	SOIL	33.0	mg/kg
01486	T-3 8-20-90	SOIL	41.6	mg/kg
01487	T-4 8-20-90	SOIL	47.2	mg/kg
01488	T-5 8-20-90	SOIL	18.2	mg/kg
01489	T-6 8-16-90	SOIL	66.6	mg/kg

HECLA MINING COMPANY

August 24, 1990

MEMORANDUM TO: Escalante File

FROM:

Bryan Johnson

SUBJECT:

Tailings Well Depths and Other Groundwater Information

On August 24, 1990, Randy Jones of Escalante called in to report groundwater levels for Tailing Monitoring Wells (TMW) 1, 2 and 3. Those results are:

Station	Well Surface Elevation (Feet)	Depth to Water (Feet)
TMW 1	5,430	306
TMW 2	5,340	233
TMW 3	5,425	318

According to Jones, this data represents a 16-foot elevation drop over nine years.

Groundwater Elevation Calculation

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Groundwater elevation TMW 1 = 5,430 - 306 = 5,124 feet Groundwater elevation TMW 2 = 5,340 - 233 = 5,107 feet Groundwater elevation TMW 3 = 5,425 - 318 = 5,107 feet
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This shows that groundwater flow is to the southeast and the groundwater gradient is approximately 0.85%.

PBJ:dld